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ABSTRACT

This paper takes issue with most evidence in the literature on poverty that attempts to show that increasing household income alone is not enough to significantly combat malnutrition in impoverished areas of the world. It reviews these claims in the literature and argues that the cut-off points for poverty lines taken to measure the significance of improvements in household income have been estimated at absolute poverty levels too low to show measurable improvements in the nutritional status of women and children in the short term. The paper asserts that not enough is actually understood about the timing or degree of responsiveness of nutritional outcomes to economic measures, such as how nutritional outcomes are affected as disposable income increases. It further explores how income elasticity of demand assessments are central to counter the misleading perception that improvements in income alone do not lead to measurable improved nutritional status of vulnerable groups. (Contains 49 references.) (MDM)

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MALNUTRITION AND INCOME: ARE WE BEING MISLED?

(A DISSENTING VIEW)

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Abstract:

This article takes issue with most evidence in the literature --some of it falling under the rubric of New (or Modern) Household Economic Theory-- that attempts to show that increasing household income alone is not enough to do something significant towards combatting malnutrition in the world. It reviews those claims in the literature and argues that cut-off points for poverty lines taken to measure the significance of improvements in household income have been estimated at absolute poverty levels too low to show measurable improvements in the nutritional status of women and children in the short term. It points out that not enough is actually understood about the timing or degree of responsiveness of nutritional outcomes to economic measures such as different levels of disposable income increases; the paper thus explores the substitution effects of income increases keeping in mind that the primary determinant of nutritional status of young children may actually not be total household income, but rather that portion of small-sum income earned and controlled by the mother.

Modernization and market expansion have basically created alternative consumption preferences that compete with food as a need thus leading to decreasing percentages of disposable household income being spent on food. With competing expenditure options, the relative, but more realistic, poverty line for a given location (based on current local food prices plus the prices of other old and new needs) is clearly at a higher household income cut-off point than the absolute poverty line that researchers are using as a threshold that needs to be overcome to improve nutrition. Ergo, households that raise their income barely beyond that poverty-line-set-too-low still do not show the expected improvements in the nutritional status of vulnerable household members. The point is made that poverty alleviation of an order of magnitude significantly beyond absolute poverty is needed for lasting nutritional improvement; providing for an adequate minimum nutrition of all household members year-round is simply taking more, because the percentage of total income being spent on food is lower due to competing needs. Moreover, it is argued that if increasing household income is not enough to improve nutrition, and targeting health, nutrition and sanitation improvements is indispensible, the problem still remains that for health, nutrition and sanitation actions to succeed long term requires as much upfront or concomitant sustainable household income growth as is needed for chronic hunger alleviation. Therefore, -poverty-redressing

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interventions --as much as they may be in the economic realm only-- remain central in the ultimate battle against malnutrition worldwide, particularly against malnutrition of the more severe type.
The paper further explores how income elasticity of demand assessments are key to revert the misleading perception that improvements in income alone do not lead to measurable improved nutritional status of vulnerable groups.
In sum, the paper mainly critiques the mainstream paradigm portrayed in the literature reviewed. The danger it highlights is that mainstream policy is currently based on the conclusion of studies using a misleading methodology and data interpretation that are part of that paradigm; and if the paradigm is bankrupt, so are the policies. The evidence is here analyzed from a new perspective marking a possible paradigmatic break.

The issue as presented in the literature:

Based on recent studies from the International Food Policy Research Institute (IFPRI), from the Collaborative Research Support Project (CRISP) and on other reviews such as those by the World Bank in well over two dozen countries, strong claims are being made that improvements in overall household income alone (in the absence of increases in household size that would dilute the immediate income effect) do not lead to improved nutritional status of mothers and under-five children in the short term, unless combined with significant health, nutrition and sanitation interventions. (1,2,3,4,5,6,7,8,9,10)

"Programs with the sole goal of enhancing income", it is, for instance, claimed, "have not been as effective in alleviating malnutrition as expected... (Only) in the longer run, or in 'some' cases is increasing income likely to improve... nutrition." (10,11) A more compromising position admits that "income level has a positive effect on household food intake, but a less robust effect on nutritional status." (9)

Despite this marginal overall effectiveness attributed to income improvements alone, the data do show that an improvement in nutritional status can be expected for the lowest income deciles households nationwide when overall household income indicators improve. (3) [In Lesotho, for instance, income was an important predictor of dietary intake in households that had low agricultural production. (12)]

Computer-run models based on some of the IFPRI studies imply that even doubling household income would not significantly improve the nutritional status of vulnerable women and children across the board. (13, 14) Amongst this type of models, regression models, it has to be said, have particularly low explanatory power, and a coherent relationship between children's nutritional status and income is frequently simply difficult to demonstrate;

even the best models have not proven the case, partly because they are static, or because there are relevant driving forces that are not captured by the model. (15) [After all, how many regression models are needed to realize that removing a price subsidy on a basic staple food of the poor will have disastrous consequences for nutritionally vulnerable consumers? (16)].

There are at least four other arguments that are used to downplay the importance of increasing household income alone (in-kind and disposable) as a central intervention to combat malnutrition:

> One, centers around the inflection seen in the (weight for age) growth curve of some children in low income households after 24 months of age: their growth curve is flat or descending between 12 and 24 months (when the infant still depends on others to be fed) and catches-up (resumes an ascending slope) thereafter when the child is assumed to be better endowed to fetch food for him/herself; this is interpreted as an indication that household food security alone --as a proxy for at least a minimum adequate income and/or for sufficient year-round total household calorie availability-- is not enough to prevent malnutrition in infants during or after weaning and that infant and child care/feeding practices are more important.
> Another, argues that in longitudinal studies --independently of level of income-- children who are doing well at the baseline, have a high probability of doing well at follow-up, and the opposite is true for those doing poorly. (13)
> A third one, although a weak one, finds parents in one of the poorest parts of Zimbabwe with satisfactory weight (or overweight), but their children with poor nutrition (nothing is said whether moderate or severe malnutrition, though). (17)
> Fourthly, it is argued that total household calorie availability is sufficient in many households that still have (at least moderately) malnourished under-fives. (18)

As a matter of fact, one of my major criticisms is that not enough is understood about the timing or degree of responsiveness of nutritional outcomes to varying economic measures such as different levels of disposable income changes. Is there a lag period in the response and, if so, how long a lag time? Should one compare household-level factors in the previous period (or the next-to-last period) with nutritional status in the current period? All this is not clear in the mainstream methodology used. On the other hand, we know that in response to abrupt income declines, the very factor households will protect through a variety of coping mechanisms (e.g., deterioration of the mother's food consumption) is the shorter-term nutritional status of children; thus the question is: is the reverse true following an abrupt income improvement? (16) Although in a review of fifteen countries, a hike in income had the greatest effect on caloric intake during lean times, a 10% increase in income in families who consumed 1750-2000 calories per capita per day, only

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led to about a 4% increase in caloric intake. (19) (also see reference 6)

There is further evidence in the literature that:

a) Increasing rural income improves food security in terms of access to food and reduces malnutrition significantly in countries with very low per-capita income. Doubling per capita income (from $300-$600) results in a reduction of about 40% in the prevalence of below standard weight-for-age of children. From another vantage point, malnourished rural poor households tend to have much lower incomes than non-malnourished rural poor households. (14,p.p.11+29)

b) In households with severely malnourished members, insufficient income is the most limiting factor and education alone, aimed at reallocating a given amount of real income to food, is not likely to be effective; nutrition education will not change competing household priorities. (20)

c) There is a direct relationship between socioeconomic (SE) status and birthweight. (7, 21)

d) Increases in income are associated with increases in caloric intake of staple and non-staple foods, especially for the poorer households. (10)

e) The caloric intake of preschoolers rises with increasing income. (22)

f) The effect of income on nutritional status may not always be through increased food consumption, but indirectly through better sanitation, for instance. (23)

g) Better nutritional status is associated with higher wages. (24)

Moreover, the primary determinant of nutritional status of young children (or at least of their food energy consumption) may actually not be household income as such, but rather that portion of continual, small-sum (non-lump-sum) income earned and controlled by the mother. The issue of intra-household resource control and decision-making is thus central since women are more likely to spend more of their income on family welfare and on food. (13, 14,p.28; 25, 26, 27)

[In a project in Ghana, access to credit and labor-saving technologies, water supply, health and literacy were the explicit priorities identified by the women themselves; but credit was the top one. A program of collateral-free loans to women as the only intervention (used to start up village-based microenterprises) proved to have significant positive health and nutrition impact on participating households. (28)] (For more examples see reference 29).

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Time spent on generating income is an additional important determinant of household nutritional status to consider. There are those who claim that the nutrition effect of increased income may be less than expected, because women may be allocating more time to earning money and less to child care. (11, 14, p.28) Although results are situation-specific, with others I contend the opposite: as more poor households pass the threshold of a realistic poverty-line for a given location, women will be able to decrease their workload and free up some more time to devote to infant and child care and feeding. (29) As a consequence of a more affordable relative leisure time, total household calorie availability will more effectively trickle down to the infant and help revert or prevent the child's flat weight curve before age 24 months.

As pertains income distribution, too many "development" projects and most structural adjustment programs have resulted in reductions in the disposable income of the poor, particularly the malnourished rural poor, thus increasing their household poverty (at least for sometimes long initial periods). This is what some have called immiserizing growth. And at the extremes of poverty, most household income is spent on food and water (if the latter is not available free), plus a smaller amount on shelter, leaving little surplus. For the poor people concerned, reduced income leads to malnutrition and ill-health. Reduced income for the very poor can thus result from policies that cause either a reduction in income across the population or, more often, from increased maldistribution of income.

Policies that increase the prices of necessary items, such as food, fuel or housing can also have profound repercussions, after a short lag time, especially if their consumption is price-elastic. (10, 30)

> [As a matter of fact, evidence from Indonesia shows that the combined effect of three factors --changes in distribution of income, level of income and staple food prices-- could have a substantial impact on nutritional status. (31) Also, evidence from the Ivory Coast and from Ghana shows that higher food prices have a significant detrimental impact on the nutritional status of both children, particularly those above 3 years, and adults. (32)]

In all the studies reviewed, the common denominator actually is that it is for **moderate** malnutrition that it seems to be more difficult to show significant improvements when income alone increases.

In sum, and for the same reasons that I have been consistently giving since at least 1979 (33), I have extreme difficulty in taking the evidence from the literature as 'proof' of the fact that "increasing-income-is-not-enough-to-effectively-combat-malnutrition in the world". (9) This, not only due to the fact that countries are extremely heterogeneous and experiences with

SE policies vary substantially from country to country (30), but primarily due to what I argue in my thesis herebelow. I am particularly weary about the normative implications such "proofs" may have in influencing policies to combat malnutrition in what is left of the century.

The thesis:

The extreme poor can be acceptably defined as those whose food-energy consumption falls below levels at which a healthy life is ensured. (14) Since the most urgent problem we face in the world too often still is severe malnutrition (more frequently found amongst the poorest of the poor), anything we do to first eradicate these cases of malnutrition is already a laudable (and monumental) task. [It is estimated that 455 million people in developing countries in 1988 were too poor to obtain sufficient energy for minimal activity among adults and healthy growth among children. (34)] Implementing (and not only designing) measures that rapidly improve total income of the poorest rural populations --be it farm, non-farm (off-farm) and/or non-agricultural income-- thus seems being urgent, equity-oriented and well worth the while!

As we saw, the literature says that hunger is effectively addressed by household income growth and/or transfers; but it is further said that increasing household income is not enough and that (targeted) nutrition, health and sanitation actions are indispensible. (9, 11,p.pxviii+45) I have problems with the latter argument, if nothing else, for the reason that for nutrition, health and sanitation actions to succeed in the long run requires as much upfront or concomitant sustainable household income growth as is needed for hunger alleviation! (14,p.29; 23) Nutrition, health and sanitation interventions, before income growth, have simply not convincingly proven to decrease the prevalence of malnutrition in any significant or sustainable way.

> [In India, target-oriented health and nutrition interventions were recently assessed as having been able to only partially alleviate malnutrition among the vulnerable groups; it was judged that, to eradicate the worst forms of malnutrition, increasing the purchasing power of the poor and strengthening the public distribution system were indispensible. (35)]

I, therefore, feel inclined to disagree with those who claim that **income growth in poor areas has an indirect rather than a direct effect on nutritional improvement**. (14,p.29) This may sound unorthodox, but as my thesis developed and evolved, the evidence analyzed from this new perspective quite consistently pointed me in that direction thus marking a possible paradigmatic break.

Additionally, one should not underestimate the so many other

desirable effects that an improvement especially in non-farm/non-agricultural household income has, even if these effects are totally unrelated to nutrition. (13) [This income represents 45-59% of rural income in the Third World; rural households with lower incomes, on average, have a greater degree of non-agriculture income, most probably out of sheer need and due to the fact that these households have a high correlation with subsistence or tenant farming, landlessness, male control of income and often greater wage-dependency. (14,p.p.8,34+35)]

Poor households desirably increase their demand for local goods and services and they build up their asset base out of incremental income. But actually, non-food expenditures often rise more rapidly with increased income than do food expenditures despite the fact that the income elasticities for such necessities are locus- context- and time-specific.
Moreover, the availability of these (desired) local goods and services is considered by many to play a crucial incentive role for rural growth, as much as rural growth promotes their availability at affordable prices. This availability of affordable goods and services explains why patterns of household spending and consumption --while rational to the household head-- may not necessarily be optimal from a nutritional perspective; it also explains why, if development policies are geared to increase the availability of these goods and services at low prices, nutrition is likely to suffer (due to a substitution effect) if overall household income does not increase substantially at the same time. [In a regression model using data from 21 countries, the income elasticity of nutritional improvement ranged only from .00 to .35]. (14,pp.xviii,xix+11; 23)

The importance of being poor: Poverty, I agree, is essentially, but not only, a matter of low income or risky income streams; although generalized poverty criteria cannot be established, poverty is related to the cost of locally acquiring certain basic commodities and services; being able to afford these determines an income- or expenditure-based poverty line (heavily based on minimum-cost-diet considerations). If poverty is measured (directly) as underconsumption of calories, as for example in reference (14), then one is measuring absolute poverty with a (food) poverty line cut-off point at 80% of recommended caloric consumption.

Crucial to my analysis is the fact that the general relationship between absolute poverty (measured as prevalence of malnutrition) and average rural per capita income is strong. Even if the cut-off point chosen to define poverty is nutritional, malnourished rural poor households still need mostly income (cash or in-kind) to surpass that poverty line, no matter how the latter is defined; the cut-off point thus almost unavoidably gets monetized! (as a matter of fact, 'permanent income' is the one that plays the most critical role in raising rural families above the poverty line). Furthermore, I contend that, to revert malnutrition, severely malnourished rural poor households need

more income than the location-specific gap found between them and the non-malnourished rural poor households in the literature, i.e. they need to increase their income more than 51-66% in average (range 17-152%) depending on whether one takes caloric consumption or anthropometric indicators as cut-off points for assessing poverty. (Calculated from Table 9 in reference 14). Interestingly, low income in severely malnourished rural poor households correlates considerably stronger with an anthropometric indicator (weight for age in under-fives) than with overall caloric underconsumption; this, should actually come as no surprise since the former is more a poverty outcome indicator that is more directly linked to the percentage of income spent on non-foods plus other factors, thus more linked to relative than to absolute poverty. (14,p.p.xiv,10,30,31,33+68)

A matter of underestimated poverty lines and forgotten income elasticities of demand: I remain convinced that the main flaw in the reasoning in most of the literature criticized above is that cut-off points for absolute poverty lines are being used to measure the significance of improvements in household income and these cut-off points are set at levels too low to show measurable improvements in the nutritional status of household members in the short term when surpassed. Ergo, households that raise their income barely beyond that poverty-line-set-too-low still do not show the expected improvements in the nutritional status of vulnerable household members.

What has happened, both in urban and in rural areas in the Third World, is that the relentless twin processes of modernization and market expansion --particularly as seen in the last twenty years-- have caused the poor's income elasticities of demand for non-food items often to surpass those for staple foods; the same is true for income elasticities of demand for more expensive and/or processed food items, as well as for an array of diverse services: they are simply often higher than those for staple foods. (36)

Modernization and market expansion have basically created alternative consumption preferences/needs that compete with food as a need thus leading to decreasing percentages of disposable household income being spent on food. In short, the trade-offs the mother has to make divert her effective demand away from traditional foods, towards an unwarranted type of food variety and towards non-foods.

Put another way, a simple household 'food first' strategy is now more relative, because a certain number of a variety of non-food home goods needs to be supplied first.

In the rural areas, elasticity of demand of peasant households crucially depends on the availability of affordable (low-priced) manufactured consumption goods --e.g. textiles, footware, processed foods and beverages, building materials, transistor radios and means of transportation-- and modernization and market

expansion are making this increasingly possible. (14,p.19; 19, 37, 38) With competing expenditure options/preferences/needs for income disposal (even greater in urban areas), the **relative**, but more realistic, **poverty line** for a given location (linked to current local food prices plus the prices of other felt needs) is clearly at a higher household income cut-off point than the **absolute poverty line** that researchers are using as a threshold that needs to be overcome to improve nutrition.

Poverty alleviation significantly beyond absolute poverty is needed for lasting nutritional improvement. Providing for an adequate minimum nutrition of all household members year-round is simply taking more, because the percentage of total income being spent on food is lower due to competing needs. (Note also that in urban areas the amount spent per-calorie increases with rising income). (3, 6, 39) Ergo, this demonstration effect increases the minimum level of total income required for adequate household nutrition. This probably explains why, in Asia, other social indicators of welfare have gone up at a higher rate than nutrition indicators in the last 15 years.

> [Of course this demonstration effect also applies to developed countries: results from Britain starkly illustrate how difficult it is to provide a good diet for poor children under the present UK Income Support Programme. (39)]

Therefore, in the presence of competing needs (and choices) for household income expenditure, the **relative** (higher) poverty line --that would still allow sufficient allocation of cash for enough food for the household-- is probably quite significantly higher. Distributions below and above an income- or expenditure-based poverty line are thus not only important to identify relevant differences in total income of poor and non-poor households, but particularly to determine these households' respective **percentages of total income spent on food**. (14,p.1)

> [We are reminded here that measuring poverty entails two distinct problems, namely, defining a poverty line (allowing a ranking), and defining the characteristics and the intensity of the poverty of those falling below the line (and household spending behavior clearly contributes to define the latter characteristics). (40)]

With others, (41) I thus caution readers to reassess whether relative poverty is not more relevant for us to consider for effective policy-making than the narrower spectrum of determinants that define absolute, extreme (food) poverty (which a World Bank staffer euphemistically calls "hard-core poverty", I guess to emphasize that poverty is as much of a scandal as pornography...). (42) In a way, people --through their economic behavior-- determine whether they are poor... (33) For better or for worse, the people are the ultimate judges of where their priorities lie, and trying to improve their nutrition ignoring how they are voting with their pockets will only keep pushing us

in the wrong policy directions. Therefore, under current circumstances, trying --for example through education-- to significantly limit the diversion of household and female income from traditional foods to other items is, in my opinion, a futile enterprise.

These are the reasons, then, why I posit that household income, as a major SE status indicator, may not be correlating positively with the nutritional status of women and children in the short term in the studies criticized above.

It is really regrettable that the empirical experience thus far reported tends to indicate that even well conceived studies demonstrate a direct link between nutrition and macro-level policy issues only with great statistical difficulty, with extraordinary effort and expenditure and too often unconvincingly. (16) I maintain that **orders-of-magnitude-in-the-income-increase have been to low** for the interpretation of such studies to shed any positive light on the above link. The fact that diversity in income levels of households has not been showing as differences in nutritional status in those studies has most probably been due to the fact that the range of this diversity has been too narrow to make a difference. (The same logic probably applies to the diversity in income found across malnourished households only).

> [From empirical experience, as an expariate living in Africa, I feel I can be categorical about this issue of orders of magnitude: the local urban minimum wage would indeed require a severalfold increase to allow a family of five or six to purchase sufficient food].

Note, finally, that **I am not here blaming modernization and the market**; in an almost Quixotic endeavour, I am blaming the researchers that are concluding --without more strictly qualifying their conclusions-- that income increases (evidently too low to have a nutritional impact) are having negligible effect in reverting malnutrition, because, among other, they are not considering this fast growing elasticity of demand for non-foods. They surely empirically accept that poverty is at the base of malnutrition, that their studies may not be fully accurate or may somehow be missing the point, yet they are shy to the need to guide the recommendations they make toward income increases/redistribution of the order of magnitude that could have a chance of making a difference.

> [A case in point comes from the analysis of the data in 27 countries presented in Figure 3 of reference (14): I had quoted earlier that the authors highlighted that their regression model showed that rural preschool malnutrition would be reduced by 14 percentage points if per capita rural income increased from $300 to $600; when looking at the full regression curve though, it turns out that, for these same countries with GNP per capita of less than $1,000, a 300%

increase in income from $200 to $800 would actually reduce the prevalence of malnutrition by roughly 26 percentage points (a 60% reduction!). (14,p.p.10+11)]

I, therefore, conclude that mainstream thought is somehow not accurately explaining the facts. I find logical inconsistencies in mainstream methodologies in this field; inconsistencies that I think call for alternative methodologies and/or interpretations of the data. When the latter are applied, I contend we will better know if the thesis I have here advanced is proven right or wrong. For now, the danger I see is that mainstream policy is currently based on studies using a misleading methodology and/or data interpretation that are both part of the ruling paradigm; and if the paradigm is bankrupt, so are the policies.

I acknowledge that, for now, this paper mainly critiques the mainstream paradigm portrayed in the literature reviewed: it does not elaborate on an alternative one beyond some generalizations that show, at most, a direction. What follows is an attempt at defining such direction.

What to do?:

If researchers want to contribute to making a meaningful difference for the people they research on I think it is time for them to go back to basics and, to start with, launch a series of worldwide **income elasticity of demand studies** to reassess the role of modernization and market expansion on household expenditure behavior of at least the lower quartile income group in specific rural and urban settings. And, as long as they are at it, I suggest we also commission the corresponding, complementary **income distribution studies** to periodically reassess and document the (more often than not) relentless process that is further skewing income distribution to the detriment of the poor. (I am sure the ruling elites will resist researchers' moves to get involved in such periodic studies...). Only then will we know who our lower quartile is, how this group's income relates to the poverty line, how nutritionally at risk the people under this cut-off point are and how they behave economically! (43) It is not that this type of studies are not carried out at all, but they need to be carried out, to be updated and to be published periodically and not only sporadically. (Otherwise, we have all seen these studies having been done, but the results having bene kept sequestered by the powers that be due to their "confidentiality"...).

Once we have reassessed the percentage of household income the poorest decile households realistically spend on food year-round both in (sentinel?) rural and urban settings, then we have to carry things one step further and estimate more objectively how significant the increase in household income will have to be to better assure covering caloric needs for all household members: most probably more than the 100% increase in poor households'

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income the computer model of IFPRI looked at! (13, 14)

It is even more. I contend it is conceivable that such threshold income studies may find locus-specific cut-off points for **percentage of total net household income spent on food**, below which malnutrition rates of under-fives drop sharply. (I even dare to predict that this percentage of income spent on food that has a preemptive effect on malnutrition will most often be below 55%; and to reach this point, rather sizeable increases of total household income will have to be realized). Although such a rough index risks being limited to particular settings, it can increasingly become a very useful indicator in the battle against malnutrition and can lead to a more systematic characterization of households at risk. (44) As an indicator, this percentage-of-income-spent-on-food index would complement the one that estimates the number of hours of work necessary to buy a basic 'food basket' which incorporates both wage and price effects. (10)

All interventions geared at increasing disposable household income to ultimately affect the nutritional status of all household members need to be rooted in an understanding of existing local household income strategies and their underlying comparative advantages.

> [Such interventions could, among other, include: Investments in human capital formation including literacy; time/labor-saving technological changes; targeted price subsidies (food subsidies, for example, increase the real income of households with access to the subsidies) (23); rural income diversification (diversification for 'good' reasons) to strengthen the households' year-round income generation capacity (14); wage employment generation (with wages paid on a weekly basis); access to (seasonal) credit/saving schemes at affordable/attractive interest rates (to alleviate production instability and risky income streams) (14); enforcing minimum wages, social security and equitable ownership and user rights. (All these to be seriously considered with a skew towards women).]

With the more direct causes of poverty differing according to location, and the degree of purchasing power for different goods and services varying from diverse income sources, there is little basis for making generalizations and for deriving blanket conclusions pertaining income targeting. But a <u>package</u> with combinations of the above-mentioned interventions --having the additional potential of generating sizeable income and employment multipliers elsewhere in the economy-- would, if significant, exercise a strong enough influence over the income and nutritional status of the malnourished poor; the latter respond rather quick to adjust their income strategies to take advantage of favorable new circumstances. (9, 11, 14,p.p.38,42+43)

All that would be left, then, would be to fine-tune how to best

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improve the food security and nutritional impact of income-generating policies themselves. (45)

Only after I see such a package approach being used in an effort to determine the role of income improvements alone on the nutritional status of the more socially vulnerable, will I let myself be convinced that such improvements do or do not lead to improved nutritional status in the relatively short term.

> [For example, in China, during the period 1978-88, nominal per-capita incomes quadrupled in rural areas and more than tripled in urban areas (real per-capita incomes more than doubled in rural areas while the increase in urban areas was about 87%); at the same time, an improvement in the rural-urban income equality was also attained. (46) Income transfers to the rural and urban poor did become a cost-effective means of significantly expanding their food consumption. (36, 48) Higher incomes resulted in higher consumption of calories, protein and fat. Thus, increasing incomes that much did result in an increase in the demand for almost all major foods except lower prestige coarse grains; in the process, the diet became more diversified. Households made large adjustments in their consumption of calories and protein in response to income increases, much more so than in response to changes in relative food prices. (47) (Consider also the fact that Latinamerica, with much better nutrition indicators than Africa, has, on average, three times more income per capita than Africa).]

All that is said in this section does not amount to a policy prescription. In fact, alternatives listed are only very lightly, if at all, discussed; a full other paper would be needed to justify each of them.

Finally, let me emphatically state that the last thing I wanted to do here was to grossly downplay the role of non-income related variables (e.g., morbidity, household size, education) and interventions (e.g., health, sanitation, nutrition and child care interventions -- especially if properly targeted) in determining and affecting the nutritional status of vulnerable groups! (see reference 48) But, somehow, current interpretation of available data is leading to a double message: income generation has a role to play in reverting malnutrition in-the-long-run, and non-income related interventions in-the-short-run. As a result, policies derived from this message notoriously mainly target the short term interventions and leave the latter for 'others' to do something about.

In the name of what I consider fairness, I have only here attempted to resurrect the endangered concept that poverty still is the major determinant of protein-energy malnutrition in the world as conventional wisdom always has indicated. I am thus putting all those other variables and interventions in the proper perspective and calling on all of us for a more determined and

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sufficient action on the income determinants.

I still see poverty-redressing interventions, as much as they may be in the economic realm only, as central in the ultimate battle against malnutrition worldwide, particularly against malnutrition of the more severe type, the one we decisively want to rid this planet of.

Epilogue:

I do not want the readers' to agree with the thesis here advanced emotionally or "in-principle", but operationally and "commitmentwise" as pertains their daily work. We have had too much of the former lightly-taken agreements or pronouncements in the past. Trying harder, using current mainstream economic premises, is clearly not working. We have to go beyond the current restrictive framework (and paradigm) that so clearly no longer meets our needs (49) and modify the economic environment of households with malnourished members. (44)

What counts, and what ultimately saves lives, is the engaged commitment to poverty-redressing; the latter is indispensible for directed, meaningful change. We still **can** eradicate extreme poverty in an imperfect world in the foreseeable future [despite claims to the contrary in reference (11).]

For some, as I have here claimed, this may mean getting-on-with and starting needed, relevant, potentially-impacting additional research to provide the rest of us with more solid foundations for advancing realistic policies and interventions that will more effectively redress poverty and its accompanying ill-health and malnutrition. It is policy failure, more than anything else, that prevents us from overcoming constraints to equity.

Otherwise, the activities we all get involved in (be it in our own ivory towers or in the field) should neither militate against nor be neutral towards this still very much valid leitmotif of development work that aims at redistributing wealth more equitably, nationally and internationally.

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